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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/073,425 | 02/11/2002 | Victor Grubsky | STADM-60980 | 5900 |

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| EXAMINER | |
|---|---|
| PAK, SUNG H | |
| **ART UNIT** | **PAPER NUMBER** |
| 2874 | |

DATE MAILED: 06/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Applicati n N . | Applicant(s) | |
|---|---|---|---|
| | 10/073,425 | GRUBSKY ET AL. | |
| | Examiner | Art Unit | |
| | Sung H. Pak | 2874 | |

*-- The MAILING DATE of this communicati n appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *19 February 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *6* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

## DETAILED ACTION

Applicants' amendment filed 2/19/2003 has been entered, and the pending claims, as amended, have been carefully reconsidered. In view of the new and amended limitations a new ground of rejection is furnished in this office action.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 18 is rejected under 35 U.S.C. 102(b) as being anticipated by Farries (US 5,778,119).

Farries reference was cited in the information disclosure statement.

Farries discloses an optical device with all the limitations set forth in the claim: an add/drop multiplexer consisting essentially of two optical fibers (Figs. 2-3); each having a perturbation formed therein, the fibers positioned close together but without overlapping the perturbations of the fiber to allow coupling between the cladding of the two fibers (Figs. 2-3).

Claims 21-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Epworth (US 4,761,833).

Epworth discloses an optical device with all the limitations set forth in the claims, including: an optical fiber having a core and a cladding for receiving a light input, the core capable of transmitting light in a core mode and the cladding having a first index of refraction and capable of transmitting light in a cladding mode (Fig. 5); an optical waveguide having a silicone cladding which has refractive index less than the first index of refraction (column 4 line 64- column 5 line 6); wherein the cladding of the optical fiber is positioned closely to the optical waveguide forming a coupling region between the cladding of the optical fiber and the optical waveguide such that the cladding mode transmitted in the cladding of the optical fiber excites a mode in the optical waveguide (Fig. 5); the optical fiber further comprising a grating for wavelength-selective coupling of light transmitted in the core mode by the core of the optical fiber into the cladding mode transmitted by the cladding of the optical fiber (column 5 lines 10-12).

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-16, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Farries (US 5,778,119) in view of Kashyap (US 6,104,852).

Kashyap reference was cited in the prior office action.

Farries discloses an optical fiber device with all the limitations set forth in the claims, except it does not disclose the use of perturbations formed in the cladding. Regarding claim 1, Farries teaches: an input fiber for receiving light input (Fig. 2); a target fiber; the cladding of the input fiber and the cladding of the target fiber being close to define a coupling region (Fig. 2); a first perturbation for wavelength-selective coupling of light from the core of the input fiber into the cladding of the input fiber, and a second perturbation for wavelength-selective coupling of light from the cladding of the target fiber into the core of the target fiber (Fig. 2); wherein the first and second perturbations do not overlap (Fig. 2).

Regarding claims 4-9, Kashyap explicitly teaches optical gratings formed only on the cladding portion of the optical fiber (Figs. 15b, 15c, 15d; column 3 lines 3-6). Kashyap teaches that such a feature is advantageous because it allows for grating formation while preserving optical transmission characteristics of the core portion of the fiber. Therefore, it would have been obvious to a person of ordinary skill in the art at the

time the invention was made to modify Farries device to have gratings formed only on the cladding portion of the fiber as shown in Kashyap.

Regarding claims 10-16, 20, Farries discloses an optical fiber device with all the limitations set forth in the claims as discussed above, and further including: three fibers with perturbations on each of the fibers (Fig. 4).

However, Farries does not explicitly teach that the target fiber is used to remove a light of first wavelength from the input fiber, and that a third fiber is used to input a light of second wavelength into the input fiber.

Nevertheless, Farries discloses two separate embodiments in which one of the embodiments has a fiber that is used to remove a light of particular wavelength from the input fiber, and a second embodiment having a fiber that is used to input a light of particular wavelength into the input fiber (Figs. 2-3). Also, Farries discloses the possibility of having a 3-port embodiment of the current invention.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine these embodiments and have a 3-port device with a target fiber being used to remove a particular wavelength light from the input fiber, and a third fiber being used to input the same or different wavelength light into the input fiber. Such a 3-port device would be desirable as an efficient signal add-drop device.

***Doubl Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim 17 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim19 of U.S. Patent No. 6,360,038. Although the conflicting claims are not identical, they are not patentably distinct from each other.

Claim 19 of Patent '038 discloses an optical device with all the limitations set forth in the claims except it does not explicitly claim that the light being coupled from the cladding into the core of the first fiber is the light that was coupled from the cladding of the second fiber into the cladding of the first fiber, as claimed in the last 4 lines of claim 17 of the instant application. However, such a feature is well known and commonly used in fiber couplers where the coupling occurs at the cladding boundary. Therefore claim 17 of the instant application is considered obvious over claim 19 of Patent '038 in view of the prior art.

Claim19 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim1 of U.S. Patent No. 6,360,038 in view of Farries (US 5,778,119). Although the conflicting claims are not identical, they are not patentably distinct from each other.

Claim 1 of Patent '038 discloses an optical device with all the limitations set forth in the claims except it does not explicitly claim that one of the first and second perturbations is in the cladding an the other one is in the core. However, fiber gratings formed within fiber core is well known in the art, as shown in Farries reference (Fig. 2). Such a feature provides a well-known advantage of efficiently diverting the traveling signal from the core to the cladding. Therefore, it would have been obvious to a person of ordinary skill in the art to modify claim 1 of '038 patent to have one of the perturbations in the fiber core.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sung H. Pak whose telephone number is (703) 308-4880. The examiner can normally be reached on Monday - Thursday : 6:30am-5:00pm.

The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7724 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Sung H. Pak
Examiner
Art Unit 2874

sp
June 12, 2003

Rodney Bovernick
Supervisory Patent Examiner
Technology Center 2800